

Two additional species of *Dermomurex* (Gastropoda: Muricidae) from southern Australia

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Two new species of the muricid genus *Dermomurex* are described from southern Australia. The first of these, *Dermomurex* (*Dermomurex*) *agnesae*, from King George Sound, Western Australia, is the fifth known Australian member of this subgenus, which is found primarily in the New World, but also occurs in the Mediterranean. The second, *Dermomurex* (*Viator*) *howletti*, from St. Francis Isles, Nuyts Archipelago, South Australia, and Esperance, Western Australia, is the fifth taxon to be described in this exclusively Australian subgenus and the first living species from the southern part of the continent.

Keywords: *Dermomurex*, new species, Western Australia, South Australia.

Introduction

In the past quarter century there has been a virtual explosion of species of *Dermomurex*, a previously little known group of muricine gastropods first described from the Mediterranean. Prior to 1985 there were but three Australian species included in *Dermomurex* (Vokes, 1974); however, in a review of Australian members of the genus (Vokes, 1985), a total of ten species (three living and seven fossil) were recognised. Since then another two species have been described for a total of five Recent taxa, three of which are assigned to *Dermomurex* s.s.: *D. goldsteini* (Tenison-Woods, 1876), *D. angustus* (Verco, 1895), and *D. raywalkeri* Houart, 1986; and two to the subgenus *Viator*: *D. (V.) antonius* Vokes, 1974, and *D. (V.) pasi* Vokes, 1993.

In terms of modern distribution the genus *Dermomurex* is primarily New World, with a total of 15 western Atlantic and five eastern Pacific species. The eastern Atlantic has but two (one Mediterranean and one west African) and the Indo-Pacific, exclusive of Australia, has another four species. With the addition of these two new taxa, there is now a total of seven living forms of *Dermomurex* in the waters surrounding Australia, making this area second only to the western Atlantic in number of species.

Abbreviations: AMS, The Australian Museum, Sydney; MV, Museum of Victoria, Melbourne; SAM, South Australian Museum, Adelaide; WAM, Western Australian Museum, Perth.

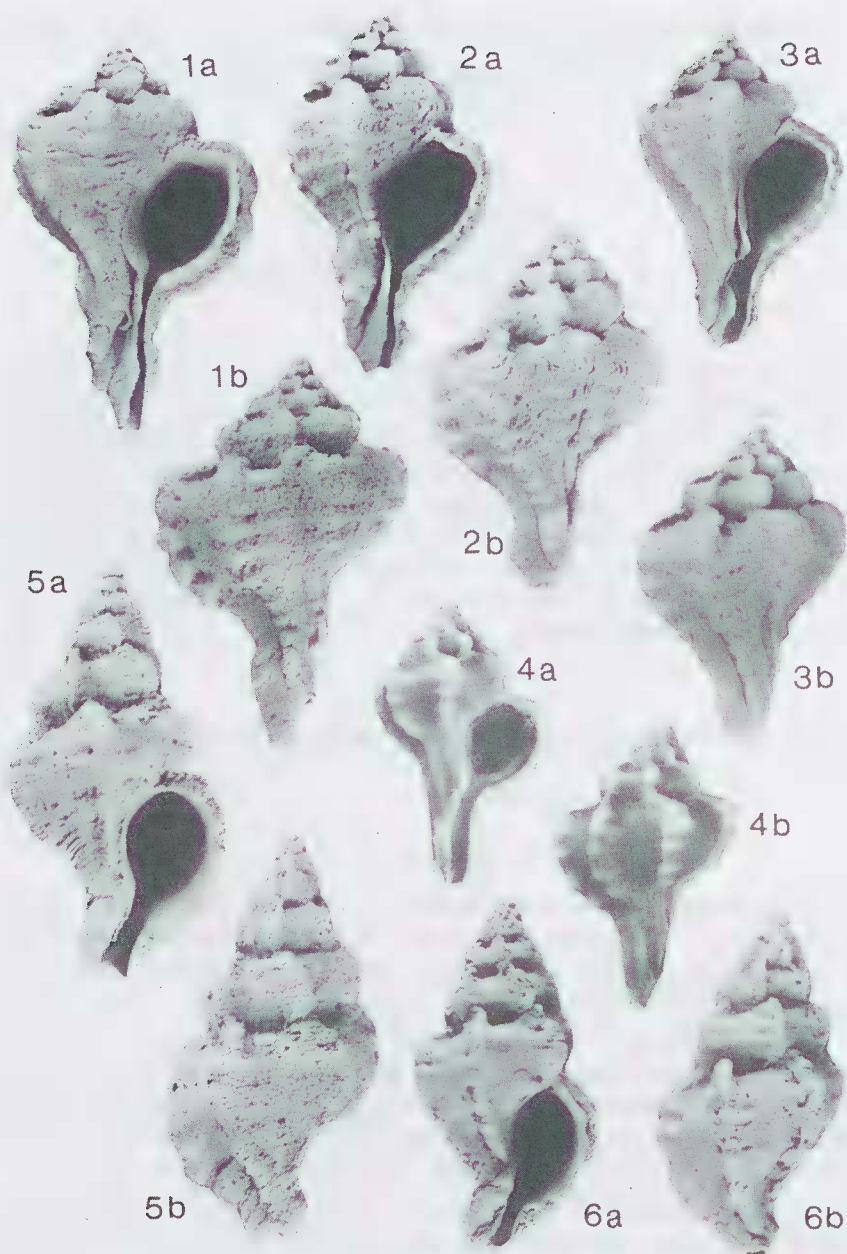


Plate 1. Figures 1–4. *Dermomurex (Viator) howletti* Vokes, n.sp. 1. MV F.74871 (holotype); length 25.8 mm, diameter 17.6 mm. 2. AMS C.300905 (paratype A); length 24.2 mm, width 15.5 mm. 3. AMS C.96359 (paratype B); length 21.0 mm, width 14.3 mm. Locality: All from off St. Francis Isles, Nuyts Archipelago, South Australia, dredged in 25–30 m. (All X 2). 4. WAM 211-94 (paratype C); length 18.4 mm, width 11.9 mm. Locality: Off Esperance, Western Australia, in 37 m. (X 2). 5, 6. *Dermomurex (Dermomurex) agnesae* Vokes, n.sp. 5. WAM 209-94 (holotype); length 13.9 mm, width 7.0 mm. 6. WAM 210-94 (paratype), length 12.0 mm, width 6.4 mm. Locality: Both from off Mistaken Island, King George Sound, Albany, Western Australia, in 12 m. (Both X 4).

Systematic Descriptions

Family Muricidae Rafinesque, 1815

Subfamily Muricinae Rafinesque, 1815

Genus *Dermomurex* Monterosato, 1890

Dermomurex Monterosato, 1890, p. 181. New name for *Poweria* Monterosato, 1884, non Bonaparte, 1840.

Type species: *Murex scalarinus* Bivona-Bernardi, 1832, = *Murex scalaroides* Blainville, 1829 (*O.D.*).

Subgenus *Dermomurex* s.s.

Dermomurex (*Dermomurex*) *agnesae* Vokes, n.sp.

Plate 1, figures 5, 6

Description: Shell small (maximum length under 15 mm), biconic, with five teleoconch whorls and protoconch of 1.5 smooth, bulbous whorls, ending at a sharp varix. Without intritacalx present, shell lacking spiral ornamentation; axial ornamentation on first post-nuclear whorl of six low rounded ridges, decreasing to five on all subsequent whorls; varices projecting slightly at mid-point of whorl. With intritacalx present, varices with raised crests, undulated by faint spiral ridges; free-standing flanges on siphonal canal. Entire external shell covered by thick, dirty-white intritacalx, smooth when fresh, with only faint axial growth lines and deep pits along adapertural edge of varices; when worn, marked by punctate spiral tubes. Aperture rounded, inner lip smooth, appressed along entire length. Inner side of outer lip smooth. Siphonal canal short, broad, recurved dorsally. Shell beneath intritacalx, and within aperture, pale peach. Operculum typically muricine with apical nucleus.

Type material: Holotype: WAM 209-94; length 13.9 mm, width 7.0 mm (pl. 1, fig. 5). Paratype: WAM 210-94, length 12.0 mm, width 6.4 mm (pl. 1, fig. 6). Both collected by Johan Pas, 1994. Three additional unfigured paratypes: one (10.3 mm X 6.0 mm) in the collections of the Australian Museum (AMS C.305214); the remaining two in the collection of Mr Pas.

Type locality: Off Mistaken Island, King George Sound, Albany, Western Australia (30°04'S, 117°55'E), in 12 m, among coralline algae rubble; four dead shells, only the figured paratype taken live.

Etymology: Because I had previously named a species of *Dermomurex* in honour of Mr. Pas, we agreed upon the name of his wife, Agnes Pas, for this second new species he has discovered.

Discussion: As has been noted previously (Vokes, 1985: 48), the Australian species referred to *Dermomurex* s.s. differ from the type species of the genus, *D. scalaroides* (Blainville) in that in the typical form, on the adult body whorl, the varices are reduced from six per whorl to only three. In the previously described living Australian species assigned to the strict subgenus, this reduction does not occur and the shells retain six

varices throughout their growth. Nevertheless, the similarity to *D. scalaroides* is sufficiently close that I see no reason to separate them.

The new species also does not reduce the number of varices on the last whorl and, in this respect, is like the other three living Australian species, but beyond that has no great resemblance. *Dermomurex agnesae* is much smaller than *D. goldsteini*, a wider shell (length/width ratio almost exactly 2 in *D. goldsteini*, compared with a ratio of less than 2 in *D. agnesae*). *Dermomurex angustus* is of similar size (both about 10 to 12 mm) but has a very elongate outline, with a length/width ratio greater than 2. The varices in *D. goldsteini* are heavy raised ribs that extend from the suture to the tip of the siphonal canal; those in *D. angustus* are somewhat weaker but also are developed as raised ridges along the entire length of the body whorl. In *D. agnesae* the varices are much reduced and nearly disappear entirely at the periphery.

In length/width ratio this new species is nearest to the Western Australian species *D. raywalkeri* Houart. However, the latter has the strong varices of *D. goldsteini* and a distinctive intritacalx with marked spiral grooves. The shell outline in *D. agnesae* is almost biconic with the body whorl tapering sharply from a maximum width at the midpoint of the length into the short siphonal canal. The outline in *D. raywalkeri* is more nearly cylindrical, with the siphonal canal very short and recurved distally.

The greatest difference between *D. agnesae* and the three other Recent Australian species is the development in the new species of only five varices on all but the first teleoconch whorl. This gives it some similarity to the adult shell of the fossil species referred to *Dermomurex* s.s., the Miocene *D. garrardi* Vokes, 1985, which is an extremely elongate shell (length/width ratio of 2.5) that decreases the varices on the body whorl to only three and may well be better referred to the subgenus *Triatella* (see discussion in Vokes, 1985: 49).

At this time, the only record of *D. agnesae* is from the type locality, King George Sound, but further collecting will probably extend the range to the east. *Dermomurex angustus* until recently was known only from the Gulf of St. Vincent, South Australia, but Houart (1986: 171, fig. 3) has extended the range to Hopetoun (ca. 200 km west of Esperance), Western Australia, and it is probable that the range of *D. agnesae* will prove to be similar.

Subgenus *Viator* Vokes, 1974

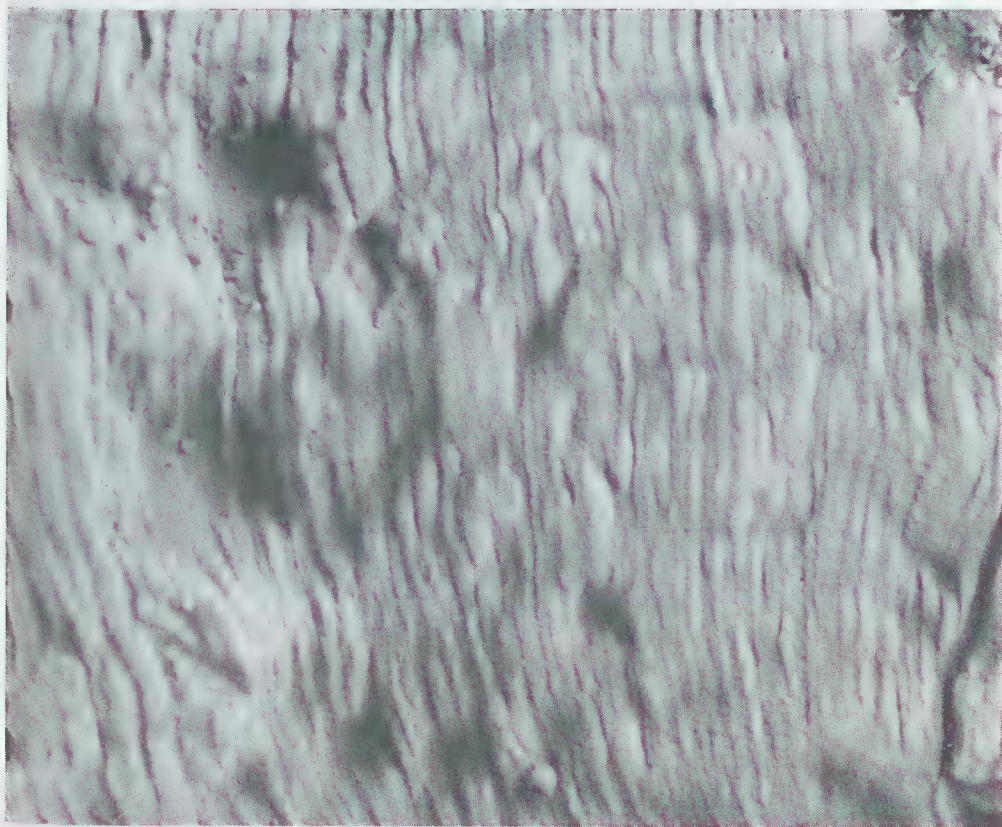
Viator Vokes, 1974: 4.

Type species: *Dermomurex (Viator) antonius* Vokes, 1974 (*O.D.*).

Dermomurex (Viator) howletti Vokes, n. sp.

Plate 1, figures 1–4; text-figure 1

Description: Shell large for subgenus (maximum length over 25 mm), about 1.5 bulbous protoconch whorls and five teleoconch whorls, no exact line of demarcation between the two. With intritacalx absent, spiral ornamentation of faint threads and five vague larger cords on body whorl, more obvious where crossing varices. Axial ornamentation on each teleoconch whorl of six heavy raised ridges, with slight projections at shoulder. With intritacalx present, varices expanded, with strong

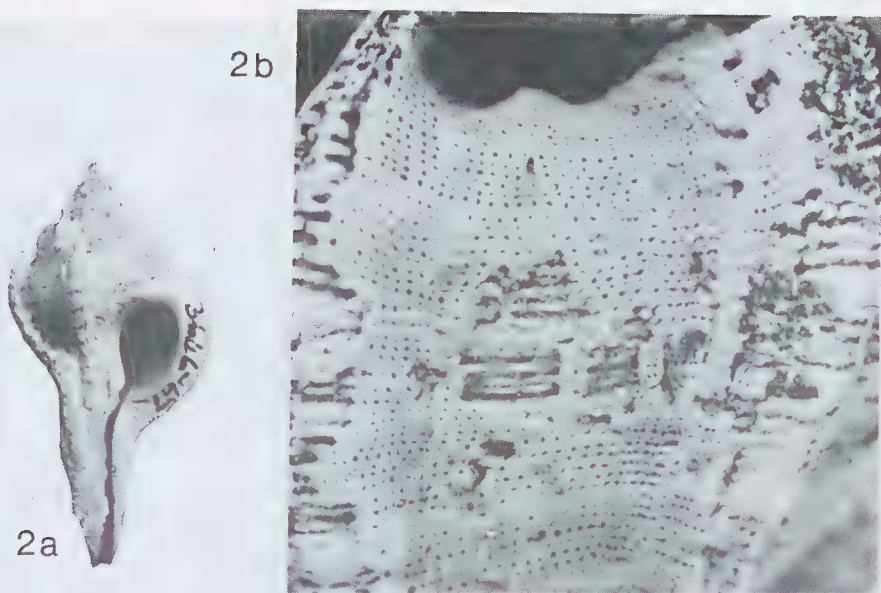


Text-figure 1. *Dermomurex (Viator) howletti* Vokes, n. sp. AMS C.300905 (paratype A); detail of intritacalx, X 20.

abaperturally recurved fold at shoulder; undulated by augmented spiral cords; somewhat flaring on extended siphonal canal. Entire external surface covered by thick, dirty-white intritacalx, corrugated by axial growth lines, crossed by faint spiral grooves with minute punctae (best seen when worn) and larger indistinct pits, randomly arranged. Aperture asymmetrically oval, inner lip smooth, appressed along entire length. Inner side of outer lip also smooth. Siphonal canal long, almost straight except for slight fold about midway along its length, exaggerated by presence of intritacalx. Shell beneath intritacalx golden-brown, white where spiral cords cross varices. Operculum typically muricine, with apical nucleus.

Type material: Holotype: MV F.74871; length 25.8 mm, diameter 17.6 mm (pl. 1, fig. 1). Paratype A: AMS C.300905; length 24.2 mm, width 15.5 mm (pl. 1, fig. 2; text-figure 1). Paratype B: AMS C.96359; length 21.0 mm, width 14.3 mm (pl. 1, fig. 3). All collected by D. Howlett. Paratype C: WAM 211-94; length 18.4 mm, width 11.9 mm (pl. 1, fig. 4), collected by A. Edinger.

Additional unfigured paratypes: WAM 212-94, length 19.2 mm, width 12.6 mm, collected by A. Edinger; SAM D.18943, length 20.7, width 13.0, collected by D. Howlett.



Text-figure 2. *Dermomurex (Viator) antonius* Vokes. WAM 3634-67 (holotype); length 25.7 mm, width 13.4 mm; locality, Dampier Archipelago, Western Australia. (2a, shell, X 2; 2b, detail of intritacalx, X 20).

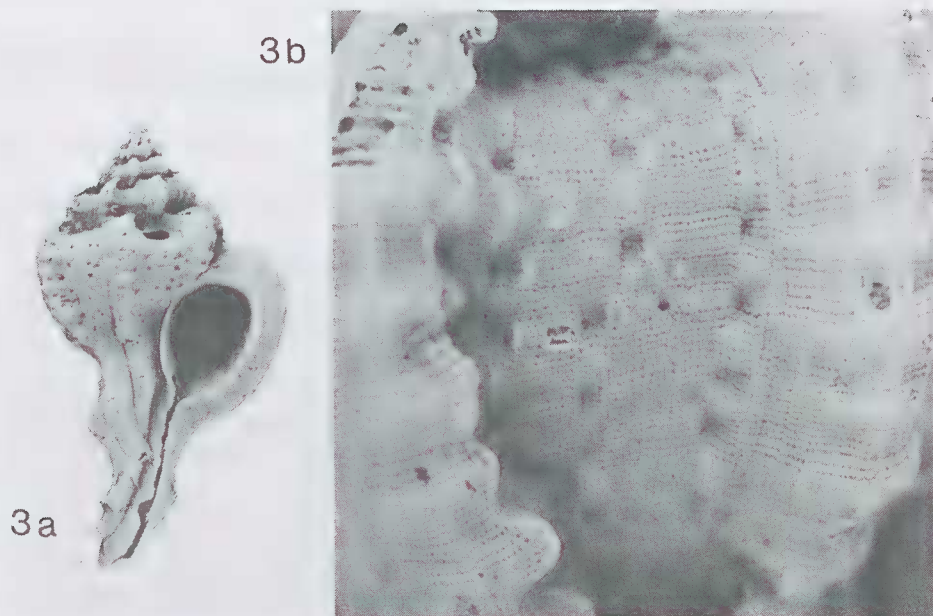
Type locality: 1 km west of Smooth Island, north side St. Francis Isles, Nuyts Archipelago, South Australia (32°31'S, 133°18'E), dredged in 20-30 m, December, 1973; additional material: same locality, 1974-75. Paratype C taken off Esperance, Western Australia, in 37 m, by A. Edinger, 1994.

Etymology: Named in honour of David Howlett, Port Lincoln, S.A., who collected most of the type lot.

Discussion: After the description of *Dermomurex (Viator) pasi*, the second species of *Viator* from northwestern Australia (Vokes, 1993), David Howlett, Port Lincoln, South Australia, informed me of specimens resembling *D.(V.) antonius* from off the coast of South Australia. Examination of this material showed it to be distinct from both *D. antonius* and *D. pasi*, but remarkably close to the Miocene species, *D.(V.) asteriscus* (Tate, 1888), described from the Balcombian Muddy Creek Marl at Hamilton, Victoria.

In general appearance this new species is mid-way between *D.(V.) antonius* (text-fig. 2a), with a completely straight siphonal canal, and *D.(V.) pasi* (text-fig. 3a), which has a twist to the siphonal canal. The siphonal canal in *D.(V.) howletti* has a slight twist, but not as strong as that in *D.(V.) pasi*.

The three living species all have a thick intritacalx, but each is distinctive: *D. antonius* (text-fig. 2b) has spiral rows of punctae; *D. pasi* (text-fig. 3b) also has spiral rows of punctae, but they are relatively smaller, and the entire surface is marked by square pits, giving the intervarical area a checker-board appearance. The intritacalx of *D. howletti* is only minutely punctate and consists of axially elongate rugae (text-fig. 1), which give the shell a completely different surface texture. Unfortunately, no specimens of *D. asteriscus* have the intritacalx preserved.



Text-figure 3. *Dermomurex (Viator) pasi* Vokes. WAM 237-93 (holotype); length 18.0 mm, width 10.9 mm; locality, Broome, Western Australia. (3a, shell, X 3; 3b, detail of intritacalx, X 20).

The overall shell shape of *D. howletti* is much like that of *D. asteriscus*, having a lower spire than the two northern forms, although the fossil species has the straight siphonal canal of *D. antonius*. The second fossil species, *D. (V.) darraghi* Vokes, 1985, described from the slightly older (Batesfordian) Gillebrand Clay of Victoria, also has an absolutely straight siphonal canal, but the body whorl is less inflated than *D. howletti*, tapering rapidly from the shoulder into the siphonal canal. The smallest paratype (Paratype C) has lost all of its intritacalx, revealing the underlying sculpture of the shell and it can be seen that the new species differs from *D. asteriscus* in being completely smooth between the varices, in contrast to the strong spiral cords seen in the latter (compare Vokes, 1985: pl. 3, figs. 1,2). It also shows the shell to be a dark golden-brown with white varices.

Acknowledgements

Once again, I am indebted to Johan Pas, Albany, Western Australia, who sent to me the type lot of *D. agnesae*. The original lot of four specimens of *D. howletti* was collected by David Howlett, Port Lincoln, South Australia. Subsequently Andrew Edinger, Mandurah, Western Australia, sent for identification two specimens of the same species, but collected at Esperance, Western Australia. He generously contributed his specimens to the collections of the Western Australia Museum, and I am grateful to him for this extension of range for the species. The collections managers of both the Museum of Victoria (Suzanne Boyd, Chris Rowley) and the Australian Museum (Ian Loch) kindly loaned material for this study.

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